

REMARKS

Claims 1 to 20 are retained of which claim 19 has been amended, claims 13 to 18 and 20 have been allowed and claims 5, 6, 11 and 12 have been objected to but would be allowable if written in independent form.

Claims 1 to 4, 7 to 10 and 19 were rejected under 35 U.S.C.102(b) as being anticipated by Connel et al. (U.S. 5,940, 447) or Khoury et al. (U.S. 6,121,910). The rejection is respectfully traversed.

Claim 1 requires, among other features, the step of sampling and holding an analog signal to yield a sampled signal, the analog signal comprising information. It is not apparent from Connell et al. that the input to the sample/hold circuit is an analog signal.

Claim 1 further requires the step of filtering the sampled signal at a passive filter circuit to yield a filtered signal, the passive filter circuit comprising at least one passive element, the filtered signal characterized by a bandpass response. While Connell et al. show a band pass filter circuit, there is no statement in Connell et al. that the circuit is passive as required by claim 1 nor that the filter 104 of Khoury et al. is passive as required by claim 1.

Claim 1 still further requires the step of quantizing the filtered signal to yield a digital signal, the digital signal corresponding to the analog signal, the digital signal comprising the information. No quantizer appear to be present in Connell et al. and the comparator is not stated to perform a quantizing action.

As stated in the title of the invention as well as in the specification, a major purpose of the present invention is to provide a sigma delta modulator with a passive bandpass filter. This type of circuitry provides a substantial improvement in power

consumption and may provide improvements of other types wherein the prior art sigma delta modulation, which utilizes active elements, may be unsatisfactory.

Claims 2 to 4 depend from claim 1 and therefore define patentably over the applied references for at least the reasons presented above with reference to claim 1.

In addition, claim 2 further limits claim 1 by requiring that the analog signal comprise an intermediate frequency signal. No such limitation is found in Connell et al. or Khoury et al. either alone or in the combination as claimed.

Claim 3 further limits claim 1 by requiring that the passive filter circuit comprise a passive bandpass loop filter. No such limitation is found in Connell et al. or Khoury et al. either alone or in the combination as claimed.

Claim 4 further limits claim 1 by requiring that the passive filter circuit comprise at least one filter path, each filter path comprising a highpass filter. No such limitation is found in Connell et al. or Khoury et al. either alone or in the combination as claimed.

Claim 7 requires, among other features, a sample-hold circuit operable to sample and hold an analog signal to yield a sampled signal, the analog signal comprising information. It is not apparent from Connell et al. that the input to the sample/hold circuit is an analog signal.

Claim 7 further requires a passive filter circuit coupled to the sample-hold circuit and operable to filter the sampled signal to yield a filtered signal, the passive filter circuit comprising at least one passive element, the filtered signal characterized by a bandpass response. While Connell et al. show a band pass filter circuit, there is no statement in Connell et al. that the circuit is passive as required by claim 1 nor that the filter 104 of Khoury et al. is passive as required by claim 1.

Claim 7 further requires a comparator coupled to the passive filter circuit and operable to quantize the filtered signal to yield a digital signal, the digital signal corresponding to the analog signal, the digital signal comprising the information. No quantizer appear to be present in Connell et al. and the comparator is not stated to perform a quantizing action.

The arguments further presented in connection with claim 1 apply as well to this claim other than the fact that claim 7 is written in structure rather than method format.

Claims 8 to 10 depend from claim 7 and therefore define patentably over the applied references for at least the reasons presented above with reference to claim 7.

Claim 8 further limits claim 7 by requiring that the analog signal comprise an intermediate frequency signal. No such limitation is found in Connell et al. or Khoury et al. either alone or in the combination as claimed.

Claim 9 further limits claim 7 by requiring that the passive filter circuit comprise a passive bandpass loop filter. No such limitation is found in Connell et al. or Khoury et al. either alone or in the combination as claimed.

Claim 10 further limits claim 7 by requiring that the passive filter circuit comprise at least one filter path, each filter path comprising a highpass filter. No such limitation is found in Connell et al. or Khoury et al. either alone or in the combination as claimed.

Claim 19 requires, among other features, means for sampling and holding an analog signal to yield a sampled signal, the analog signal comprising information. It is not apparent from Connell et al. that the input to the sample/hold circuit is an analog signal.

Claim 19 further requires a passive filter circuit having a passive filter coupled to the sample-and-hold circuit and operable to filter the sampled signal to yield a filtered signal, the passive filter circuit comprising at least one passive element, the filtered signal characterized by a bandpass response. While Connell et al. show a band pass filter circuit, there is no statement in Connell et al. that the circuit is passive as required by claim 1 nor that the filter 104 of Khoury et al. is passive as required by claim 1.

Claim 19 further means for quantizing the filtered signal to yield a digital signal, the digital signal corresponding to the analog signal, the digital signal comprising the information. No quantizer appears to be present in Connell et al. and the comparator is not stated to perform a quantizing action.

The arguments further presented in connection with claim 1 apply as well to this claim other than the fact that claim 7 is written in structure rather than method format.

In view of the above remarks, favorable reconsideration and allowance are respectfully requested.

Respectfully submitted,



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